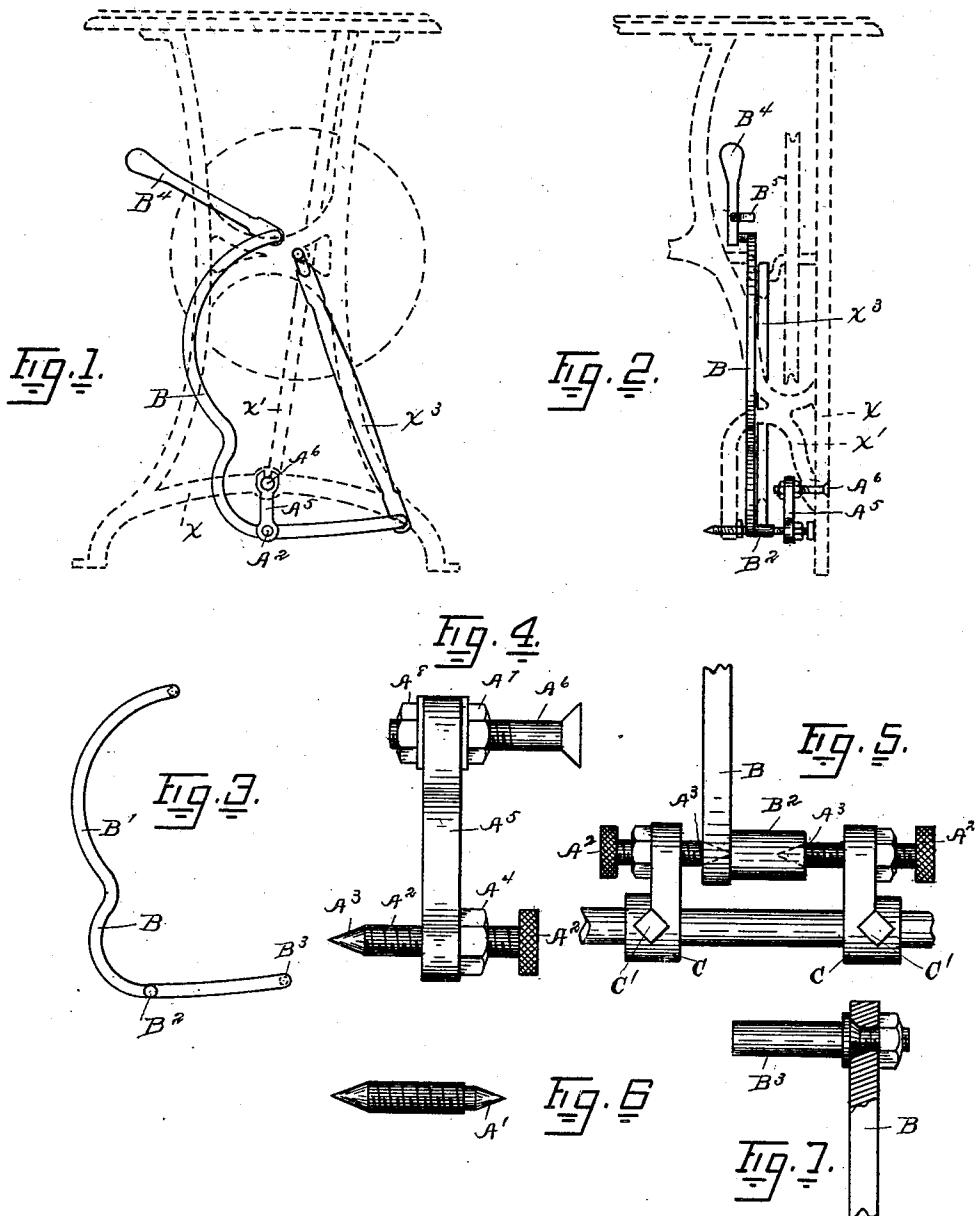


(No Model.)

N. P. DUNCAN.
ATTACHMENT FOR SEWING MACHINES.

No. 600,111.

Patented Mar. 1, 1898.



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NATHANIEL P. DUNCAN, OF HANFORD, CALIFORNIA.

ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 600,111, dated March 1, 1898.

Application filed July 29, 1897. Serial No. 646,363. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL P. DUNCAN, a citizen of the United States, residing at Hanford, in the county of Kings and State of California, have invented certain new and useful Improvements in Attachments for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to improvements in hand-operated driving attachments for sewing-machines; and it consists in the novel arrangement and construction of parts whereby the driving attachment is substituted for the foot-treadle attachment.

In the drawings, Figure 1 is a side elevation of the legs and driving-wheel of a sewing-machine having my attachment applied thereto. Fig. 2 is a front elevation of the legs of a sewing-machine on the one side, together with the driving-wheel and my attachment applied thereto. Fig. 3 is a side view in detail of the hand-operated lever detached from the machine. Fig. 4 is a detail view, in side elevation, of the hanger, by means of which the lever is attached to the leg of a sewing-machine. Fig. 5 is a detail view of an alternative form of hanger for the lever. Fig. 6 is a detail view of the screw-threaded cone-bearing, by means of which the treadle is mounted on a machine and showing the cone end provided for mounting the lever. Fig. 7 is a detail view of the pitman connection, showing the construction by means of which it is adjusted to the various sizes of perforation in different pitmen.

The style of sewing-machines to which my attachment is preferably applied is to what is known as the "Singer" sewing-machine. In this style of machine the treadle is mounted in cone-bearings between the one side of the machine removed from the driving-wheel and a bracketed extension which is thrown out from the other side of the machine and forms a part of the cross-brace. To apply my attachment to this style of machine the screw that carries the cone for the bearing of the treadle on the side next the bracket before mentioned is provided with an outward-extending cone A'. In line with the cone A'

and extending toward the same is a screw A², provided with the cone A³ and also with the lock-nut A⁴. This screw A² is mounted in 55 the extension A⁵, suitable thread being provided in the end thereof. The extension A⁵ is swung on the side of the frame or leg X. This is accomplished by removing the ordinary bolt provided for the attachment to the 60 cross-brace X' to the frame X and substituting therefor a bolt A⁶ of greater length. The bolt A⁶ is secured rigidly in position by means of the nut A⁷ and is ready to receive the extension A⁵, the upper end of which is provided 65 with a perforation adapted to extend over the inner end of the bolt A⁶ and to rest against the nut A⁷. When placed over the end of the bolt A⁶, the extension A⁵ is secured rigidly in position by setting up the 70 nut A⁸ firmly against it.

The lever B is formed to the shape shown in Fig. 3 of the drawings, the curve B' being given to avoid the guard on the fly-wheel of the machine. It is provided on the lower extension with the boss B², extending to either side therefrom. The boss is provided with inverted conical depressions to receive the cones A' A³. In mounting the lever B on the machine the screw A² is withdrawn until the 75 whole boss B² will pass between the ends of the cones. The conical depression on the side next the cone A' is then adjusted and the screw A² driven forward into the conical depression on its side, and when firmly in position the lock-nut A⁴ is driven against the extension A⁵ tightly. The cones A' A³ are formed of long and sharply-tapered extensions, so that when the lever is mounted between the same it will be held firmly against lateral movement. 80 85 90

In applying this attachment to the sewing-machine the idea is to substitute it for the usual foot-power driving-gear, and with this idea in view the pitman X³ is disconnected from the foot-treadle and into the hole or connecting-aperture left the pin B⁸ is extended and secured. This arrangement of the parts having been attained, the sewing-machine may be operated by throwing the upper end of the lever B backward and forward, which, causing the lever to swing on the pivot formed by the cones A' A³, produces the reciprocating action of the pitman X³ and causes the fly-wheel of the machine to rotate. 95 100

The upper end of the lever is provided with a handle B^4 , which is pivotally connected to the upper end of the lever B , as shown in Figs. 1 and 3. By means of the pivotal action on the handle B^4 to the lever B the forward and backward movement of the lever may be readily accomplished by the operative without following the arch of the movement of the lever about its pivot; also, by thus connecting the handle B^4 to the lever the hand of the operative may be maintained at various angles with reference to the end of the lever, and by thus alternating the position of the hand it may be rested.

- 15 To prevent the handle B^4 swinging against the guard of the fly-wheel or into an inconvenient position, it is provided with an extension B^5 , so that the handle will not pass the lever when released by the operator.
- 20 In the form of the mounting shown in Fig. 5 of drawings there is provided for the style of machines wherein the treadle is mounted on a cross-rod that extends between the sides or legs of the machine. This alternation calls for the use of clips $C' C'$, which are mounted on the cross-bar X^4 and set in position by the set-screws C' . The clips C are in every other respect similar to the extension A^5 and are provided in their ends (which in this form are extended upward instead of downward) with the screws A^2 , having the cones A^3 , which are seated in the depressions provided in the boss B^2 of the lever B . When the machine is provided with this mounting for the lever, the connection and operation of the lever in its relation to the pitman X^3 are the same as above described.

Having thus described this invention, it is claimed—

- 40 1. An attachment for sewing-machines, consisting in the combination of a lever pivotally connected to the pitman of the driving-wheel of the machine and fulcrumed on the frame of the machine and extending above the bearing of the said driving-wheel; with a fulcrum-bearing for the said lever mounted on the said frame and adapted to be separated laterally to permit the rapid adjustment and removal of the lever; and an attaching device adapted 45 to connect the lower end of the said pitman and lever, substantially as described.

2. An attachment for sewing-machines con-

sisting in the combination of a lever pivotally connected to the pitman of the driving-wheel of the machine and fulcrumed on the frame 55 of the machine and extending above the bearing of the said driving-wheel; with separable bearings for the fulcrum, the one side of which is provided with a screw-thread to advance and recede the said side to and from the said lever; and an attaching device adapted to connect the lower end of the said pitman and lever, substantially as described.

3. An attachment for sewing-machines consisting in the combination of a lever connected to the pitman of the driving-wheel and fulcrumed on the frame of the machine and extended forward to above the bearing of the said driving-wheel; with pivotal bearings consisting of screw-bolts having conical-shaped 60 ends turned toward each other and adapted to extend into and be withdrawn from suitable sockets on each side of the said lever; brackets secured to the frame of the machine and having threaded perforations to receive 65 the said screw-bolts; and an attaching device adapted to connect the lower end of the said pitman and lever, substantially as described.

4. An attachment for sewing-machines consisting in the combination of a lever pivotally 80 connected to the pitman of the driving-wheel and fulcrumed on the frame of the machine and extended to above the bearing of the said driving-wheel; fulcrumed bearings for the said lever consisting in brackets secured to 85 the frame of the machine and being provided with screw-bolts having conical-shaped ends and mounted in threaded perforations in the said brackets to be advanced to and withdrawn from suitable sockets on each side of 90 the said lever; an elongated handle pivotally mounted on the upper extension of the said lever and adapted to extend toward the front of the machine; and an attaching device adapted to connect the lower end of the said 95 lever to the said pitman, substantially as described.

In testimony whereof I have hereunto set my hand this 13th day of July, 1897.

NATHANIEL P. DUNCAN.

Witnesses:

BALDWIN VALE,
MAYNARD HARMS.